

U.S. DEPARTMENT OF COMMERCE  
National Technical Information Service

AD-A024 594

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,  
MEXICO, 23 APRIL 1975

TELEDYNE GEOTECH

PREPARED FOR  
AIR FORCE TECHNICAL APPLICATIONS CENTER

3 NOVEMBER 1975

145103

SDCS-ER-75-35

10

①

AD A024594

**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT**  
**Mexico, 23 April 1975**

**K.J. Hill, M.S. Dawkins, R.R. Baumstark, and M.D. Gillispie**  
**Alexandria Laboratories**

**Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314**

**February 1976**

**APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.**

**Sponsored By**

**The Defense Advanced Research Projects Agency**  
**Nuclear Monitoring Research Office**  
**1400 Wilson Boulevard, Arlington, Virginia 22209**  
**ARPA Order No. 2897**

**Monitored By**

**VELA Seismological Center**  
**312 Montgomery Street, Alexandria, Virginia 22314**

**REPRODUCED BY**  
**NATIONAL TECHNICAL**  
**INFORMATION SERVICE**  
**U.S. DEPARTMENT OF COMMERCE**  
**SPRINGFIELD, VA. 22161**

**DDC**  
**RECEIVED**  
**MAY 20 1976**  
**RECEIVED**  
**B**

<b>ACCESSION for</b>		
<b>DTIC</b>	White Section	<input checked="" type="checkbox"/>
<b>DOC</b>	Buff Section	<input type="checkbox"/>
<b>UNANNOUNCED</b>		<input type="checkbox"/>
<b>JUSTIFICATION</b> .....		
.....		
<b>BY</b> .....		
<b>DISTRIBUTION/AVAILABILITY CODES</b>		
<b>Dist.</b>	<b>Avail. and/or SPECIAL</b>	
A		

Disclaimer: Neither the Defense Advanced Research Projects Agency nor the Air Force Technical Applications Center will be responsible for information contained herein which has been supplied by other organizations or contractors, and this document is subject to later revision as may be necessary. The views and conclusions presented are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Defense Advanced Research Projects Agency, the Air Force Technical Applications Center, or the US Government.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1 REPORT NUMBER SDCS-ER-75-35	2 GOVT ACCESSION NO.	3 RECIPIENT'S CATALOG NUMBER
4 TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) Mexico, 23 April 1975		5 TYPE OF REPORT & PERIOD COVERED Technical
		6 PERFORMING ORG REPORT NUMBER
7 AUTHOR(s) Woolson, J. R., Solari, D. D., Dawkins, M. S. Hill, K. J., and Markle, R. J.		8 CONTRACT OR GRANT NUMBER(s) F08606-74-C-0013
9 PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech 314 Montgomery Street Alexandria, Virginia 22314		10 PROGRAM ELEMENT PROJECT TASK AREA & WORK UNIT NUMBERS T/4703
11 CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		12 REPORT DATE 3 November 1975
		13 NUMBER OF PAGES 15
14 MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314		15 SECURITY CLASS (of this report) Unclassified
		15a DECLASSIFICATION DOWNGRADING SCHEDULE
16 DISTRIBUTION STATEMENT (of this Report)  APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.		
17 DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18 SUPPLEMENTARY NOTES		
19 KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20 ABSTRACT (Continue on reverse side if necessary and identify by block number)		

SDCS Event Report No. 35

Mexico, 23 April 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Latitude	Longitude	$m_b$	$M_s$
NORSAR	11:14:45	16.9N	103.4W	6.0	N/A
LASA	11:14:43	15.3N	097.9W	6.3	N/A
PDE	11:14:48	16.4N	098.9W	6.0	6.2

Using SDCS stations, LASA and NORSAR, the epicenter location becomes

11:14:49	16.5N	098.9W	6.2	6.1
----------	-------	--------	-----	-----

All SDCS stations were operational except FN-WV, which was not operational due to maintenance. The NORSAR short-period waveforms were not recoverable, P arrival obtained from weekly summary.

Short-period signals associated with this event were recorded at all operational SDCS stations, LASA and NORSAR. The time correction at WH2YK is not known. Long-period signals were recorded at CPSO, RK-ON, HN-ME, and WH2YK. Long-period array data were not recoverable.

SDCS long-period horizontal channels were not rotated to orientations radial and transverse to this event location due to signal clipping.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

# STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES DEG MN SECS	ELEVATION METERS	INSTRUMENTATION	
				SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14 00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35 41.4 N 88 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32 58.0 N 80 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41 19.0 N 106 13 20.0 W	744	HS10	7505A V 87000 H
HN-ME	Houlton, Maine	46 09 43.0 N 66 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49 25.4 N 010 49 56.5 E	579	HS10	7505A V 87000 H
RK-ON	Red Lake, Ontario	50 50 20.0 N 093 40 20.0 W	566	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41 41.0 N 134 58 02.0 W	855	18300	SL210 V SL220 H

# HYPOCENTER DETERMINATION

INPUT FOR EVENT 23 APR 75  
11:14:45.0 16.899N 103.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST	REST	REST
CFC	11 19 48.3	-0.5	-0.5	22.4	29.6
IAC	11 21 05.0	0.4	0.1	30.7	350.2
RK-CN	11 21 38.3	-0.3	0.1	34.5	5.9
HN-ME	11 22 19.1	0.9	0.7	39.2	34.5
WH2YK*	11 24 24.0	31.9 *	31.2 *	51.1	338.2
NAC	11 27 25.3	-0.4	-0.3	85.0	27.6

## 67 HERRIN TRAVEL TIME TABLES

CRIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
NO CCNVERGENCE ON CALC RUN						
11:13:48.2	15.231N	95.219W	342. CALC	0.6	16	5
11:14:49.2	16.522N	98.947W	0. REST	0.5	3	5

CALC			
1	.	2	
0	.	1	
0	0.	1	0
.	.	.	.
0	0.	0	0
0	.	0	
0	.	0	

REST			
1	.	2	
0	.	1	
0	0.	1	0
.	.	.	.
0	0.	0	0
0	.	0	
0	.	0	

CHI2 COVERAGE ELLIPSE; 95 PER CENT CCNF..LEVEL, SDV= 1.26  
MAJOR 93.1KM. MINOR 61.5KM. AZ= 14 AREA= 17993 SQ.KM. REST

# DATA SUMMARY

INPUT FOR EVENT 23 APR 75  
11:14:45.0 16.899N 103.000W 0KM.

STA.	PHASE	ARRIVAL		INST	PER	A/Z	MAGNITUDE		DIR	DIST
		TIME					MB	MS		
CFC	EP	11 19 48.3		SPZ		??				
CPC	LR	11 33 36.0		LPZ	21.0	1500.		5.65		22.4
LAC	EP	11 21 05.0		AB	2.1	1987.	6.67			30.7
RK-CN	EP	11 21 38.3		SFZ	1.5	332.	5.92			34.5
RK-CN	LR	11 36 22.0		LPZ	19.0	4684.		6.33		34.5
HN-ME	EP	11 22 19.1		SFZ	1.5	418.	5.72			39.2
HN-ME	LQ	11 35 34.0		LPT	35.0	742.				
HN-ME	LR	11 40 41.0		LFZ	21.0	1009.		5.72		39.2
WH2YK*	EP	11 24 24.0		SPZ	1.1	63.	5.20			51.1
WH2YK	IR	11 44 53.0		LPZ	17.0	5853.		6.60		51.1
NAC	EP	11 27 25.3		AB	1.8	506.	6.40			85.0

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	IPMAG	LPSDV	IPSTA
11:14:49.2	16.522N	98.947W	0. REST	6.18	0.43	4	6.07	0.5	4

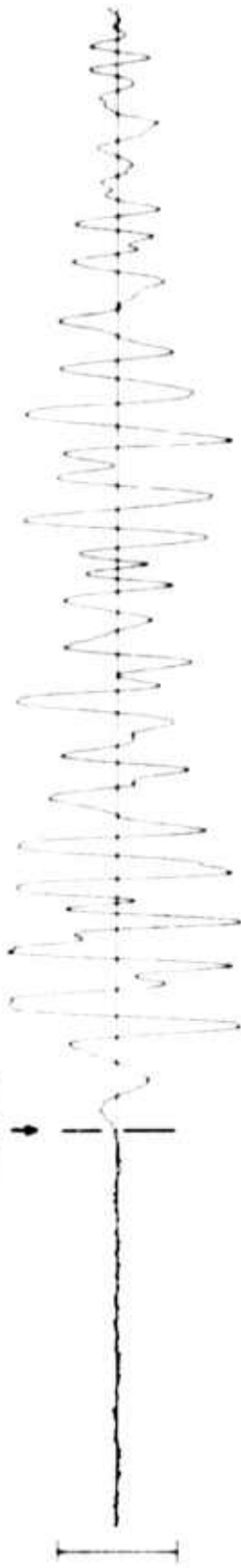
IP MAG. (REST)= 6.07 4 STA., SDV= 0.46 SE= 0.21, DIFF= 0.11, QUAL= 5.16



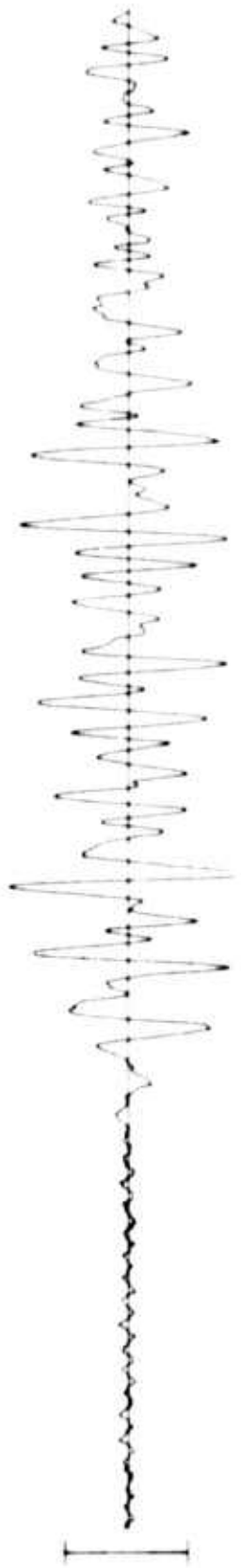
CP-S0 23 APR 75

11:19:48.3

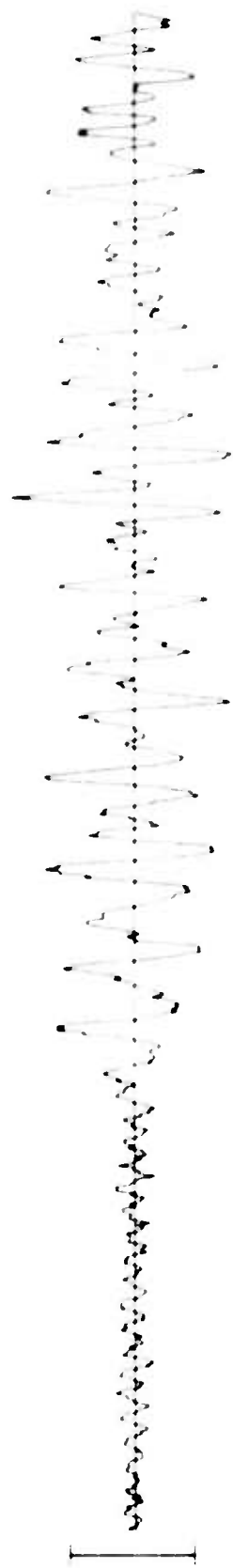
SPZ  
729.17 MP



SPR  
389.84 MP



SPT  
243.25 MP



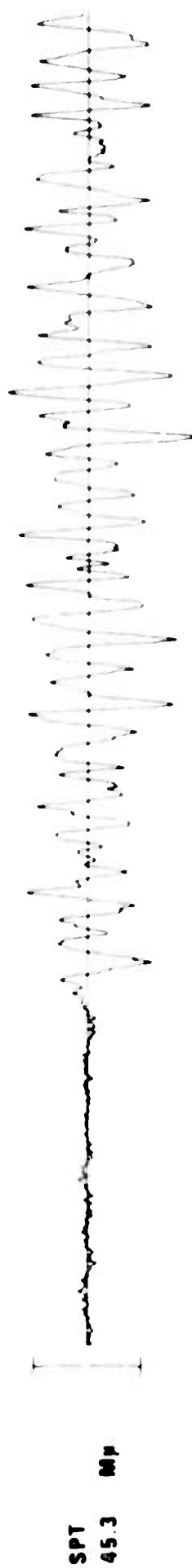
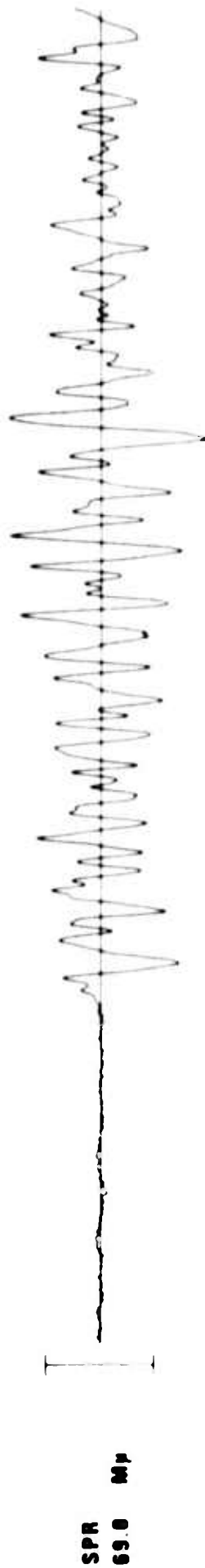
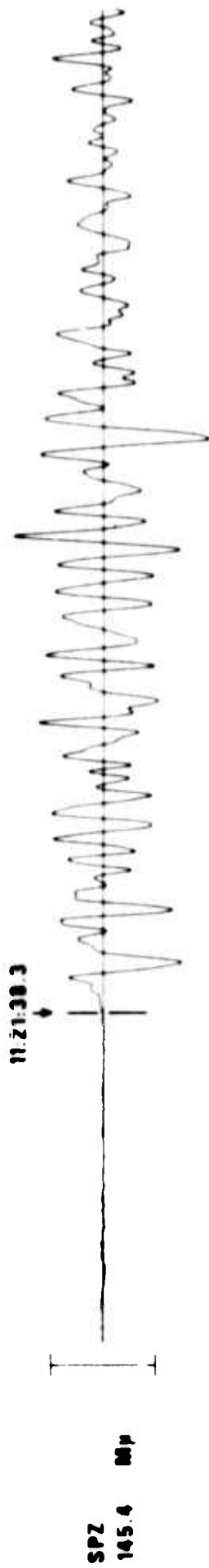
TIME

10 SEC

11:20:00



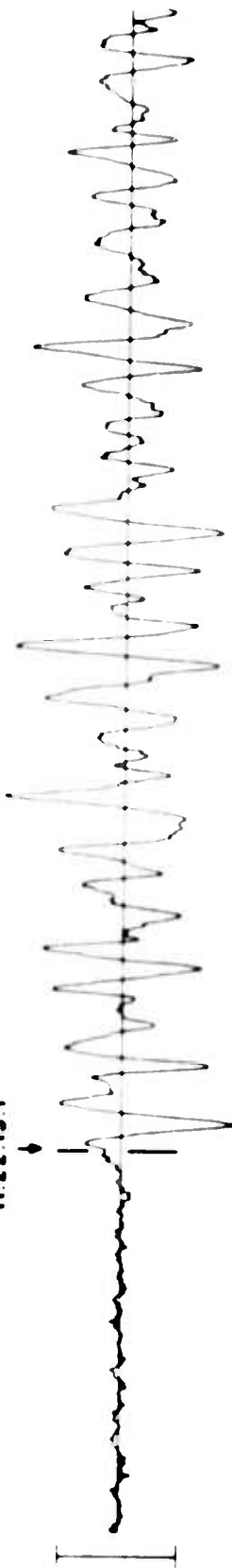
RK-ON 23 APR 75



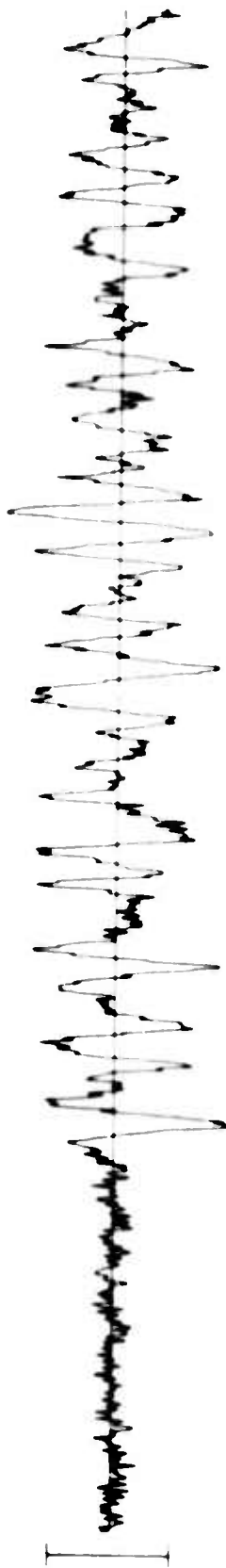
HN-ME 23 APR 75

11:22:19.1

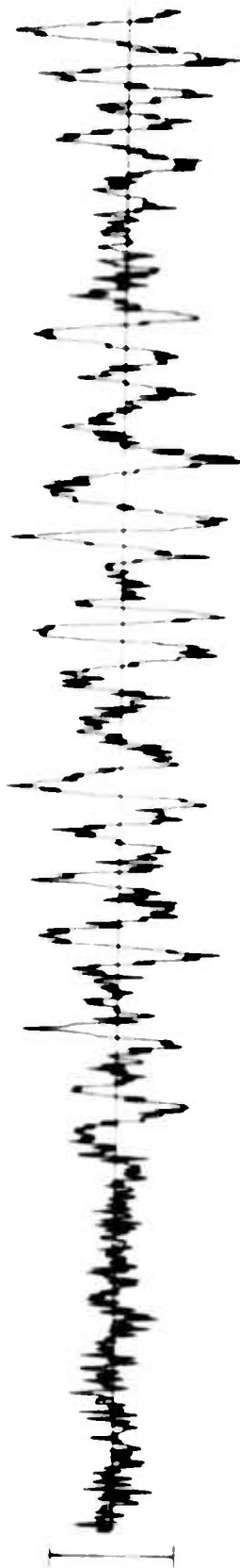
SPZ  
133.46 MP



SPR  
59.84 MP



SPT  
42.71 MP



TIME

10 SEC

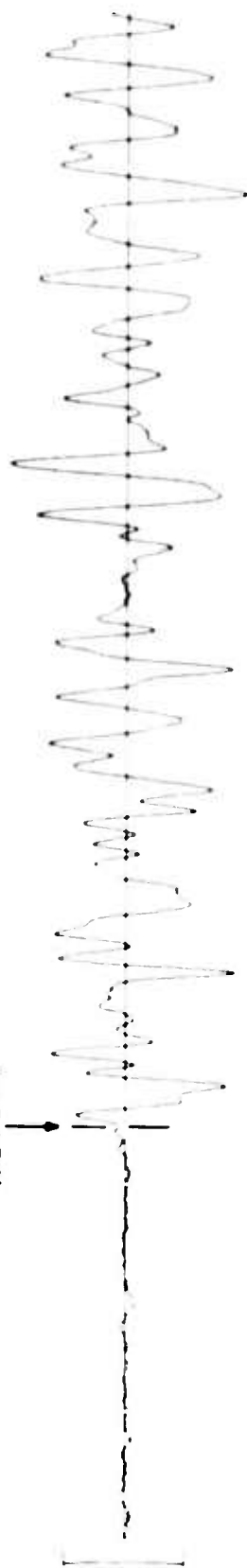
11:22:30



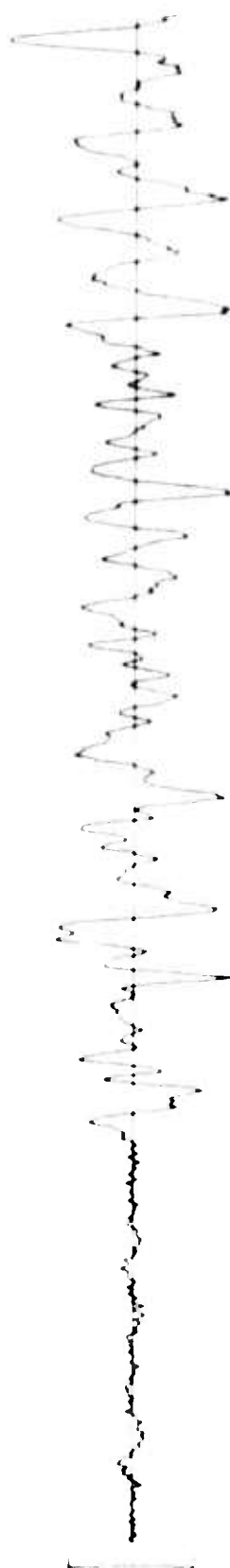
WH2YK 23 APR 75

11:24:24.0

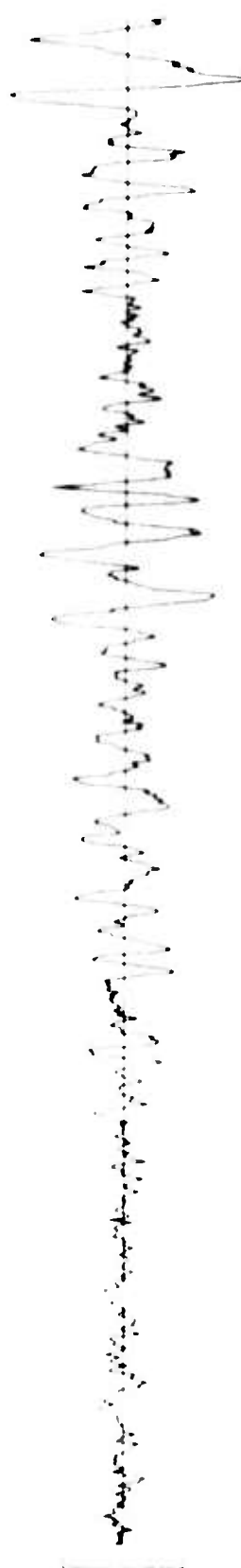
SPZ  
46.45 MHz



SPR  
37.08 MHz



SPT  
18.75 MHz



TIME

10 SEC

11:24:40

TIME CORRECTION UNKNOWN

# LASA

1 23 APR 1975

2 11 15 36 21.1N 99.4W 330 C 5.4 523 CENTRAL MEXICO

3 11 21 5.2 LAO P 187.7 2.1 12.2 26.0 165.4

EPX 44461

BP-B 0.6-2.0 HZ

ABN 65

11:20:55.2

AB 330

FAB 140

WAB 130

PAB1 130

PAB2 140

PAB3 170

PAB4 170

10 SEC

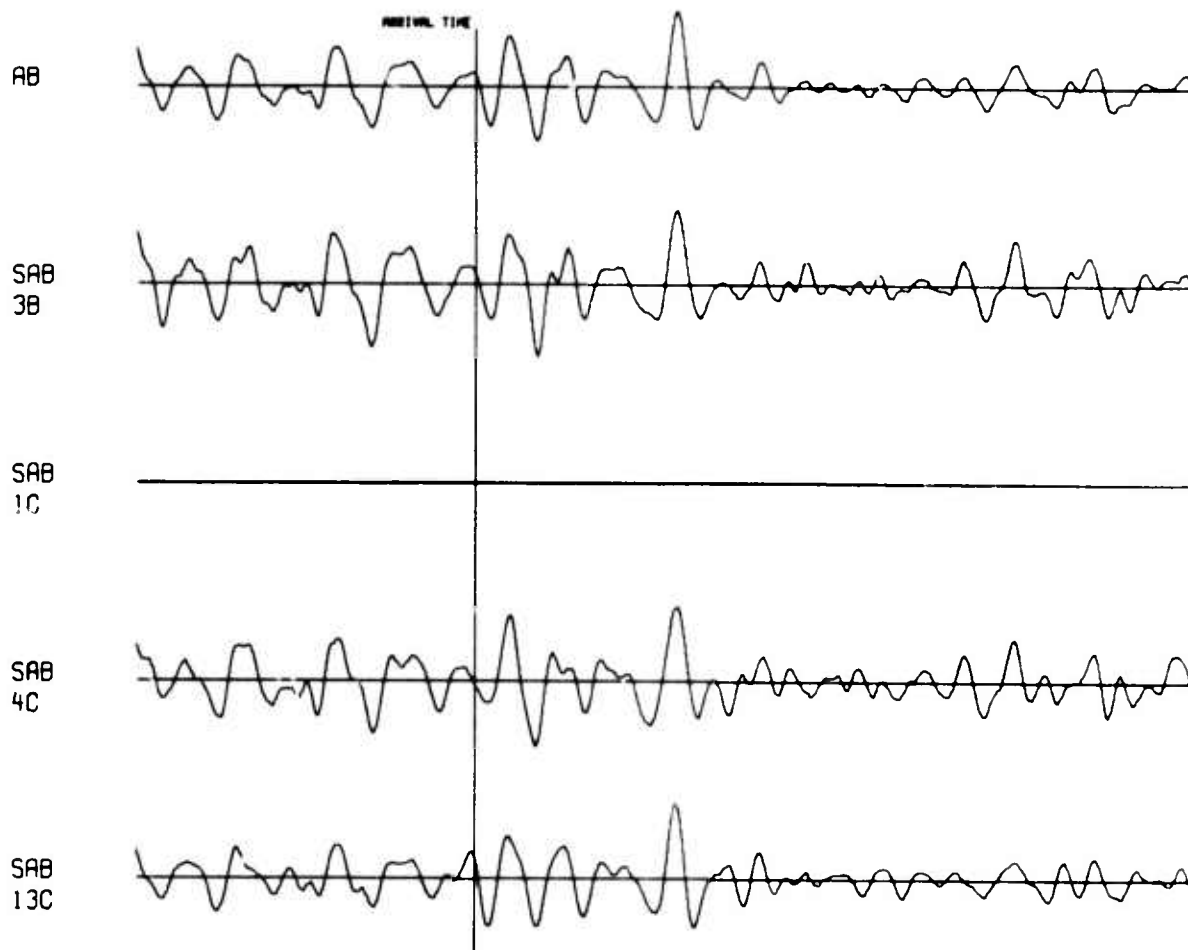
# NORSAR EVENT FILE

1975 APR 23

EPX NO. 84650 ARR. 11.27.42.7 16.9N 103.4W 5.3MB 33KM

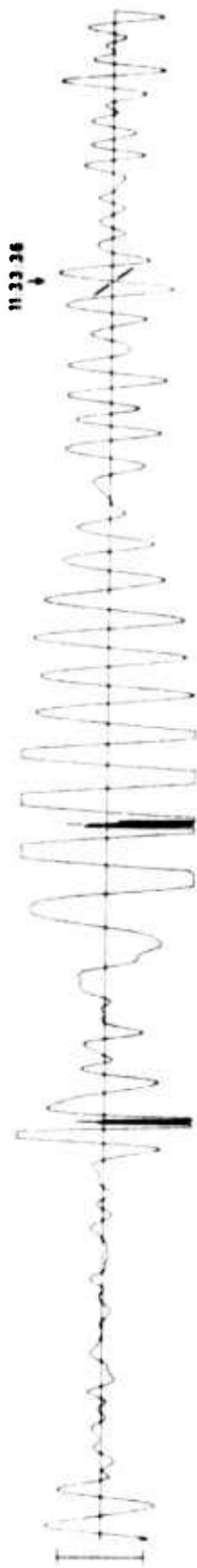
DIST = 86.6 AZI = 299.0 AMP = 48.3 PER = 1.7 UMETH 2

SCALE  = 5 SECONDS



CP-S0 23 APR 75

LPZ  
24055.30 MP



LPR  
60755.06 MP



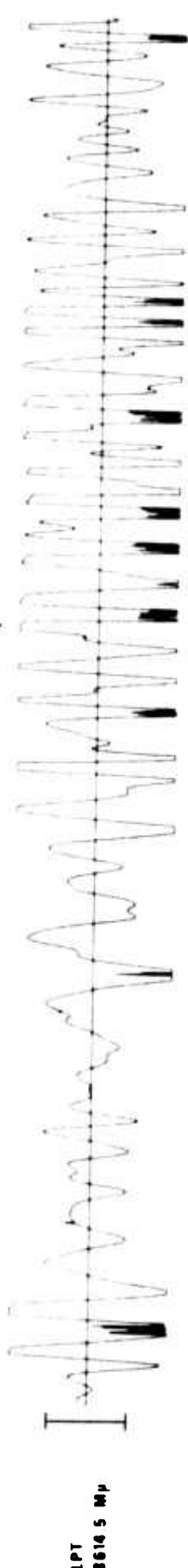
LPE  
7132.70 MP



TIME

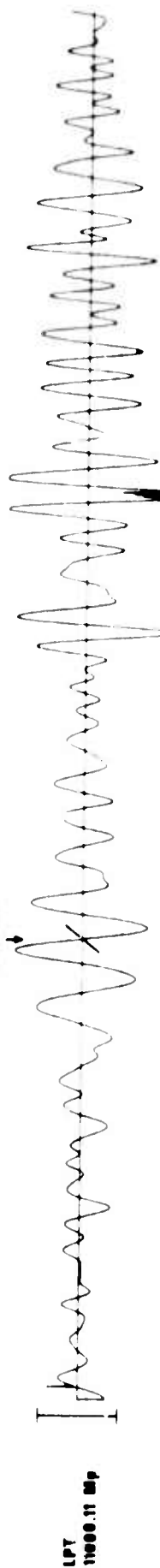


RK-ON 23 APR 75





HN-ME 23 APR 75



WH2YK 23 APR 75

